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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2625	9

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/254,959	Applicant(s) CHEN ET AL.	
	Examiner Abolfazl Tabatabai	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *July 2, 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *45-64* is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *Februay 22, 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5,6, 9,10, 12-15, 17-20, 23, 43 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Seppi et al (U S 5,099,505).

Regarding claim 1, Seppi discloses a system for increasing the accuracy of a radiation therapy comprising:

a camera housing (column 14, lines 36-38);

optic means disposed within the camera housing for collecting the image-bearing radiation and defining an optical path (column 10, lines 37-44; column 11, lines 43-49 and column 22, lines 39-42);

an image amplifier disposed within the camera housing along the optical path such that image amplifier electronically amplifies the image in the image-bearing radiation (column 18, lines 59-67); and,

a detector disposed in the optical path, the detector being adapted to convert the image into an electronic signal representative of the image (column 5, linews 1-9 and column 6, lines 1-6).

Regarding claim 2, Seppi discloses a system for increasing the accuracy of a radiation therapy further comprising a scintillator converts the

radiation into a visible light spectrum (column 8, lines 1-5).

Regarding claim 3, Seppi discloses a system for increasing the accuracy of a radiation therapy wherein the scintillator converts x-ray radiation (column 13, lines 34-44).

Regarding claim 5, Seppi discloses a system for increasing the accuracy of a radiation therapy further comprising display means in electrical communication with the detector for receiving the electronic signal and displaying the image transmitted thereby (column 11, lines 9-15).

Regarding claim 6, Seppi discloses a system for increasing the accuracy

of a radiation therapy wherein the image amplifier further comprises a photocathode which translates the image-bearing radiation into electron emissions (fig. 9 element 80).

Regarding claim 9, Seppi discloses a system for increasing the accuracy of a radiation therapy further comprising a radiation source that projects radiation toward an object creating the image bearing radiation from the object, the radiation source being adapted to electronically shifts between a plurality of positions of the radiation such that the image transmitted by the image-bearing radiation changes for each of the plurality of positions (column 8, lines 63-68).

Regarding claim 10, Seppi discloses a system for increasing the accuracy of a radiation therapy wherein the radiation source electronically shifts between two positions generating stereo-pairs of three-dimensional images (column 11, lines 59-66).

Regarding claim 12, Seppi discloses a system for increasing the accuracy

of a radiation therapy comprising:

a radiation source that projects radiation into the tissue, the radiation being selectively absorbed by the tissue thereby imparting an image onto the radiation defining a radiation shadow (column 7, lines 63-67 and column 8, lines 1-7).

a radiation converter in optical alignment with the radiation source, the radiation converter converting the radiation shadow, and thus the image transmitted thereby, into image-bearing visible light (column 23, lines 6-18); and,

a photosensitive medium in optical communication with the radiation converter such that the image-bearing visible light generates and image have the tissue and abnormalities therein (column 8, lines 1-5).

Claim 13, is similarly analyzed as claim 6 above.

Claim 14, is similarly analyzed as claim 8 above.

Regarding claim 15, Seppi discloses a system for increasing the accuracy of a radiation therapy wherein the radiation converter comprises:

a scintillator that converts the radiation shadow into the image-bearing visible light (column 4, lines 13-41 and column 8, lines 1-5); and,

optical transmission means in optical communication with the scintillator for transmitting the image-bearing visible light to the photosensitive medium (column 4, lines 13-41 and column 17, lines 8-15).

Regarding claim 17, Seppi discloses a system for increasing the accuracy of a radiation therapy wherein the scintillator is fabricated of cadmium tungsten oxide or lutetium oxyorthosilicate (column 10, lines 8-11 and column 13, lines 22-27).

Regarding claim 18, Seppi discloses a system for increasing the accuracy of a radiation therapy wherein the radiation source is selectively movable to project the radiation between a plurality of positions such that the radiation shadow changes for each of the plurality of positions (column 9, lines 25-30).

Claim 19, is similarly analyzed as claim 10 above

Regarding claim 20, Seppi discloses a system for increasing the accuracy of a radiation therapy wherein the radiation source is continuously deflected producing a plurality of radiation shadows that can be interactively "focused" to various levels within the tissue (column 9, lines 62-68).

Regarding claim 23, Seppi discloses a system for increasing the accuracy of a radiation therapy wherein the radiation source projects divergent rays of the radiation (column 19, lines 25-34).

Claim 43, is similarly analyzed as claim 1 above

Claim 44, is similarly analyzed as claim 2 above

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 4, 7, 8,11,14, 24 -26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seppi et al (U S 5,099,505) in view of Karellas (U S 5,864,146).

Regarding claim 4, Seppi is silent about the specific details regarding the step of the scintillator converts ultra-violet radiation.

In the same field (radiation image) of endeavor, however, Karella disclose a system for quantitative radiographic imaging comprising the step of the scintillator converts ultra-violet radiation (column 6, lines 6-16).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the scintillator converts ultra-violet radiation as taught by Karella in the system of Seppi because Karella provides a system of fabricating a pixilated filter structure of dual energy imaging applications. This procedure uses microfabrication techniques to fabricate a thin film filter with an area detector to simultaneously collect two different energies in an x-ray imaging system. This is particularly well suited to the flat panel detectors such as CCDs having small pixel sizes.

Regarding claim 7, Seppi is silent about the specific details regarding the step of the photocathode is fabricated of gallium-arsenide to convert infrared radiation into the electron emmissions.

In the same field (radiation image) of endeavor, however, Karella disclose a system for quantitative radiographic imaging comprising the step of the photocathode is fabricated of gallium-arsenide to convert infrared radiation into the electron emissions (fig. 40G element 1664 and column 34, lines 54-64).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the photocathode is fabricated of gallium-arsenide to convert infrared radiation into the electron emissions as taught by Karella in the system of Seppi

because Karella provides a system of fabricating a pixilated filter structure of dual energy imaging applications. This procedure uses microfabrication techniques to fabricate a thin film filter with an area detector to simultaneously collect two different energies in an x-ray imaging system. This is particularly well suited to the flat panel detectors such as CCDs having small pixel sizes.

Regarding claim 8, Seppi is silent about the specific details regarding the step of the detector is an Intensified Charge-Coupled Device.

In the same field (radiation image) of endeavor, however, Karella disclose a system for quantitative radiographic imaging comprising the step of the detector is an Intensified Charge-Coupled Device (fig. 1 element 24).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use CCD as taught by Karella in the system of Seppi because Karella provides a system of fabricating a pixilated filter structure of dual energy imaging applications. This procedure uses microfabrication techniques to fabricate a thin film filter with an area detector to simultaneously collect two different energies in an x-ray imaging system. This is particularly well suited to the flat panel detectors such as CCDs having small pixel sizes.

Regarding claim 11, Seppi is silent about the specific details regarding the step of the color images are created by filtering the image-bearing radiation consecutively through a plurality of filters thus creating a plurality of sub-images, the imaging system further comprising processing means for correcting motion in the color images by correcting and correlating the plurality of sub images.

In the same field (radiation image) of endeavor, however, Karella disclose a system for quantitative radiographic imaging comprising the step of the color images(column 18, line 50) are created by filtering the image-bearing radiation consecutively through a plurality of filters thus creating a plurality of sub-images (column 1, lines 64-67 and column 2, lines 1-3), the imaging system further comprising processing means for correcting motion in the color images by correcting and correlating the plurality of sub images (column 24, lines 52-59).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use correlating the images as taught by Karella in the system of Seppi because Karella provides a system of fabricating a pixilated filter structure of dual energy imaging applications. This procedure uses microfabrication techniques to fabricate a thin film filter with an area detector to simultaneously collect two different energies in an x-ray imaging system. This is particularly well suited to the flat panel detectors such as CCDs having small pixel sizes.

Claim 14, is similarly analyzed as claim 8 above

Claim 24, is similarly analyzed as claim 11 above

Regarding claim 25, Seppi is silent about the specific details regarding the step of the radiation source projects white light and the detector is deposed opposed to the radiation source with the tissue interposed therebetween.

In the same field (radiation image) of endeavor, however, Karella disclose a system for quantitative radiographic imaging comprising the step of the radiation source projects

white light and the detector is deposed opposed to the radiation source with the tissue interposed therebetween (column 24, lines 23-40; 66-67 and column 25, lines 1-8).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the radiation source projects white light and the detector is deposed opposed to the radiation source with the tissue interposed as taught by Karella in the system of Seppi because Karella provides a system of fabricating a pixilated filter structure of dual energy imaging applications. This procedure uses microfabrication techniques to fabricate a thin film filter with an area detector to simultaneously collect two different energies in an x-ray imaging system. This is particularly well suited to the flat panel detectors such as CCDs having small pixel sizes

Regarding claim 26, Seppi is silent about the specific details regarding the step of the radiation source projects white light which is reflected from the tissue, the medical imaging system further comprising fiber optic means for collecting the white light reflected from the tissue and communicating the white light to the detector.

In the same field (radiation image) of endeavor, however, Karella disclose a system for quantitative radiographic imaging comprising the step of the radiation source projects white light which is reflected from the tissue, the medical imaging system further comprising fiber optic means for collecting the white light reflected from the tissue and communicating the white light to the detector (column 8, lines 1-6).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use fiber optic as taught by Karella in the system of Seppi because Karella provides a system of fabricating a pixilated filter structure of dual

energy imaging applications. This procedure uses microfabrication techniques to fabricate a thin film filter with an area detector to simultaneously collect two different energies in an x-ray imaging system. This is particularly well suited to the flat panel detectors such as CCDs having small pixel sizes.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seppi et al (U S 5,099,505) in view of Tumerl (U S 6,448,560 B1).

Regarding claim 16, Seppi and Karella are silent about the specific details regarding the step of the scintillator has a density of at least 5 grams per cubic centimeter.

In the same field (radiation image) of endeavor, however, Karella disclose a system for quantitative radiographic imaging comprising the step of the scintillator has a density of at least 5 grams per cubic centimeter (column 12, lines 40-48).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use fiber optic as taught by Karella in the system of Seppi because Karella provides a high sensitivity, high spatial emission computed tomography system. Its primary sensitivity is in the range of 81 Ke V to 511 Ke V although it can be used to detect higher energies of up to a few Mc V increasing the detector thickness for both the hodoscope and the collimator.

6. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seppi et al (U S 5,009,505) in view of Heumann (U S 6,201,850 B1).

Regarding claim 21, Seppi is silent about the specific details regarding the step

Of processing means for differentiating between foreground and background in the plurality of radiation shadows such that the background can be subtracted from the image.

In the same field (radiation image) of endeavor, however, Heumann discloses enhanced thickness calibration and shading correction for automatic x-ray inspection comprising the step of processing means for differentiating between foreground and background in the plurality of radiation shadows such that the background can be subtracted from the image (column 25, lines 39-56).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use differentiating between foreground and backgroud in the plurality of radiation shadows as taught by Heumann in the system of Seppi because Heumann provides Seppi an improved system which may be used to determine the quantities of two materials comprising a two component assembly and it is fast of its computational requirements, also it is compact in terms of its storage requirements and it is portable, in the sense that measurement of the same joint on multiple system will return similar or identical thicknesses.

Regarding claim 22, Seppi is silent about the specific details regarding the step of the processing means is adapted to replaced the background with a second background.

In the same field (radiation image) of endeavor, however, Heumann discloses enhanced thickness calibration and shading correction for automatic x-ray inspection comprising the step of the processing means is adapted to replaced the background with a second

background (column 24, lines 37-51 and column 25, lines 39-56).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use differentiating between foreground and backgroud in the plurality of radiation shadows as taught by Heumann in the system of Seppi because Heumann provides Seppi an improved system which may be used to determine the quantities of two materials comprising a two component assembly and it is fast of its computational requirements, also it is compact in terms of its storage requirements and it is portable, in the sense that measurement of the same joint on multiple system will return similar or identical thicknesses.

7. Claims 27-29, 33 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Deckman et al (U S 4,891,829).

Regarding claim 27, Deckman discloses an apparatus for utilizing an electro optic detector in a microtomography system comprising:

callculating amplitudes of low harmonics of a first image of the two or more consecutive sub-images (column 9, lines 18-21 and column 20, lines 53-57);

mapping a coordinate transformation of first image into a second image of the two or more consecutive sub-images (column 20, lines 15-44);

computing corresponding transformations of the two or more consecutive sub images by interpolation (column 16, lines 63-65); and,

reconstructing the image from the two or more consecutive sub-images (column 3, lines (column 3, lines 29-37).

Regarding claim 28, Deckman discloses an apparatus for utilizing an electro

optic detector in a microtomography system further comprising the step of establishing a pixel-to-pixel correspondence by computing interpolated pixel values (column 9, lines 3-11).

Regarding claim 29, Deckman discloses an apparatus for utilizing an electro optic detector in a microtomography system comprising an electronic imaging system comprising an active area divided into a plurality of rows and columns where each of the plurality of rows is adapted to be independently shifted up or down (column 5, lines 1-7).

Regarding claim 33, Deckman discloses an apparatus for utilizing an electro optic detector in a microtomography system wherein the field means is dynamically selectable to adjust demagnification of the detector so as to govern a area of an abject to be imaged (column 3, lines 61-65 and column 22, lines 24-28).

Regarding claim 34, Deckman discloses an apparatus for utilizing an electro optic detector in a microtomography system wherein the detector has a stable "dead layer" created by ion implantation (column 14, lines 15-18).

8. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deckman et al (U S 4,891,829) in view of Davis (4,093,859).

Regarding claim 30, Deckman is silent about the specific details regarding the step of the detector incorporates Multi-Pinned Phase (MPP) technology to reduce dark current.

In the same field (radiation image) of endeavor, however, Davis disclose axial tomographic system comprising the step of detector incorporates Multi-Pinned Phase (MPP) technology to reduce dark current (column 6, lines 23-26).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use reduced current as taught by Davis in the system of Deckmen because Davis provides Deckman a system for examining an object by means of radiation such as x-ray or gamma radiation. This system has considerable advantages which the new device is continuously rotatable in one direction and consequently there is non need to reposition or readjust cables for each rotation and examination proceed considerably faster.

Regarding claim 31, Deckman is silent about the specific details regarding the step of the detector is chemically etched in an isotropic etching solution in a rotating disc system.

In the same field (radiation image) of endeavor, however, Davis disclose axial tomographic system comprising the step of the detector is chemically etched in an isotropic etching solution in a rotating disc system (column 12, lines 1-16).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use rotating disc as taught by Davis in the system of Deckmen because Davis provides Deckman a system for examining an object by means of radiation such as x-ray or gamma radiation. This system has considerable advantages which the new device is continuously rotatable in one direction and consequently there is non need to reposition or readjust cables for each rotation and examination proceed considerably faster

Regarding claim 32, Deckman is silent about the specific details comprising field

means for generating a stable electric field proximal to a back-side surface of the detector.

In the same field (radiation image) of endeavor, however, Davis disclose axial tomographic system comprising field means for generating a stable electric field proximal to a back-side surface of the detector (column 3, lines 32-42).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use electric field as taught by Davis in the system of Deckmen because Davis provides Deckman a system for examining an object by means of radiation such as x-ray or gamma radiation. This system has considerable advantages which the new device is continuously rotatable in one direction and consequently there is non-need to reposition or readjust cables for each rotation and examination proceed considerably faster.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 35-37, 39, and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Tumerl (U S 6,448,560 B1).

Regarding claim 35, Tumer discloses a system for ray detection comprising: attaching a scintillator to a light guide (column 9, lines 20-25 and 51-53); and, machining a surface of the scintillator to a predetermined thickness (column 7, lines 46-51).

Regarding claim 36, Tumer discloses a system for ray detection wherein the scintillator has a high density (column 6, lines 48-53).

Regarding claim 37. Tumer discloses a system for ray detection comprising the scintiliator has a density of at least about 8 gram S/CM3 (column 12, lines 43-48).

Regarding claim 39, Tumer discloses a system for ray detection wherein the scintillator is fabricated of cadmium tungsten oxide (column 10, lines 53-55)

Regarding claim 42, Tumer discloses a system for ray detection wherein the light guide has a top surface to which the scintillator is attached and the top surface is substantially planar (column 7, lines 64-67).

10. Claims 38,40 and 41are rejected under 35 U.S.C. 103(a) as being unpatentable over Tumer (U S 6,448,560) in view of Tran et al (U S 5,391,879).

Regarding claim 38, Tumer is silent about the specific details regarding the step of the scintillator is machined to the predetermined thickness of approximately 50 microns thickness.

In the same field (radiation image) of endeavor, however, Tran discloses radiation detector comprising the step of the scintillator is machined to the predetermined thickness of approximately 50 microns thickness (column 10, lines 66-68).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the scintillator is machined to the predetermined thickness of approximately 50 microns thickness as taught by Tran in the system of Tumer because Tran provides Tumer a system which the fiber optic network serves to reduce the amount of radiation impinging upon the sensor and by carefully controlling the sizes of the phosphor pixels, the sensor pixels, and diameter of the core of the optical fibers to within the foregoing disclose range of ratios, alignment problems of the pixelized phosphor and pixelized sensor encountered in conventional devices are greatly reduced or eliminated.

Regarding claim 40, Tumer is silent about the specific details regarding the step of the scintillator is fabricated of lutetium oxyorthosilicate.

In the same field (radiation image) of endeavor, however, Tran discloses radiation detector comprising the step of the scintillator is fabricated of lutetium oxyorthosilicate. (Column 6, line 14).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the scintillator is fabricated of lutetium oxyorthosilicate as taught by Tran in the system of Tumer because Tran provides Tumer a system which the fiber optic network serves to reduce the amount of radiation impinging upon the sensor and by carefully controlling the sizes of the phosphor pixels, the sensor pixels, and diameter of the core of the optical fibers to within the foregoing disclose range of ratios, alignment problems of the pixelized phosphor and pixelized sensor encountered in conventional devices are greatly reduced or eliminated.

Regarding claim 41, Tumer is silent about the specific details regarding the step of the light guide is fiber optic.

In the same field (radiation image) of endeavor, however, Tran discloses radiation detector comprising the step of the light guide is fiber optic (column 3, lines 20-26).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use fiber optic as taught by Tran in the system of Tumer because Tran provides Tumer a system which the fiber optic network serves to reduce the amount of radiation impinging upon the sensor and by carefully controlling the sizes of the phosphor pixels, the sensor pixels, and diameter of the core of the optical fibers to within the foregoing disclose range of ratios, alignment problems of the pixelized phosphor and pixelized sensor encountered in conventional devices are greatly reduced or eliminated.

Allowable Subject Matter

11. The following is an Examiner's statement of reasons for allowance.

The prior art of record fails to teach or suggest, radiation bearing detector disposed in the optical path, comprising a very thin, about 50 to100 micro-meter thick, and very heavy scintillator with a density greater than 6, which efficiently converts the image-bearing radiation into a visible light spectrum with a high spatial accuracy in combination into other features and elements of claim 45.

12. Claims 45-64 are allowed.

Other Prior Art Cited

13. The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Ebbesen et al (U S 6,236,033 B1) disclose enhanced optical transmission apparatus utilizing metal films having apertures and periodic surface tomography.

Flannery et al (U S 3,992,624) disclose apparatus and method of x-ray tomography at cryogenic temperatur.

U. S. Patent (4,193,089) to Brougham et al is cited for television radiation imaging system and method.

U. S. Patent (4,995,396) to Inaba et al is cited for radioactivity ray detecting endoscope.

Contact Information

14. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to ABOLFAZL TABATABAI whose telephone number is (703) 306-5917.

The Examiner can normally be reached on Monday through Friday from 9:30 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Mehta Bhavesh M, can be reached at (703) 308-5246. The fax phone number for organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abolfazl Tabatabai

Patent Examiner

Group Art Unit 2625

June 12, 2004

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